

What is claimed is:

1 1. A method for a processor to access data in a memory, the method  
2 comprising:  
3 receiving a request to read a file stored in the memory, the memory  
4 having a fragmented array of files across a single partition;  
5 building a look up table (LUT) for the memory;  
6 storing at least temporarily the LUT in the processor;  
7 accessing the LUT in the processor to create an index table which  
8 specifies a plurality of addresses for the file;  
9 storing the index table in the memory.

1 2. A method as in claim 1 wherein the memory is a flash memory.

1 3. A method as in claim 1 wherein the memory is a SmartMedia;

1 4. A method as in claim 1 wherein building a lookup table comprises parsing the  
2 memory's File Allocation Table to find clusters for all files located on the memory.

1 5. A method as in claim 1 wherein building a lookup table comprises converting  
2 file clusters associated with a file into logical sectors.

1 6. A method as in claim 5 wherein building a lookup table further comprises  
2 mapping the logical sectors of the files to their corresponding physical sectors.

1 7. A method as in claim 1 wherein storing the LUT comprises storing the LUT  
2 into a Digital Signal Processor (DSP).

1 8. A method as in claim 1 wherein creating an index table comprises utilizing the  
2 LUT to create an index table which specifies physical addresses for each file.

1 9. A method as in claim 1 wherein the index table in the memory comprises a  
2 table of records readable by the processor.

1 10. A method as in claim 9 wherein the processor is a Digital Signal Processor.

1 11. A method for a processor to write data to a memory, the method comprising:  
2 receiving a request to write a file to the memory, the memory  
3 having a fragmented array of files across a single partition;  
4 determining the size of the file;  
5 writing the file to the memory;  
6 building a look up table (LUT) for the memory;  
7 storing at least temporarily the LUT in the processor;  
8 accessing the LUT in the processor to create an index table which  
9 specifies a plurality of addresses for the file;  
10 storing the index table in the memory.

1 12. A method as in claim 11 wherein the memory is a flash memory.

- 1 13. A method as in claim 11 wherein the memory is a SmartMedia;
- 1 14. A method as in claim 11 wherein writing the file to the memory comprises  
2 searching a file allocation table (FAT) to find empty space within the memory to  
3 store the file.
- 1 15. A method as in claim 11 wherein writing the file to the memory comprises  
2 allocating empty clusters within flash memory for the file.
- 1 16. A method as in claim 11 wherein writing the file to the memory comprises  
2 storing the file in empty clusters in the memory.
- 1 17. A method as in claim 11 wherein building a lookup table comprises parsing  
2 the memory's File Allocation Table to find clusters for all files located on the  
3 memory.
- 1 18. A method as in claim 11 wherein building a lookup table comprises  
2 converting file clusters associated with a file into logical sectors.
- 1 19. A method as in claim 18 wherein building a lookup table further comprises  
2 mapping the logical sectors of the files to their corresponding physical sectors.

1 20. A method as in claim 11 wherein storing the LUT comprises storing the LUT  
2 into a Digital Signal Processor (DSP).

1 21. A method as in claim 11 wherein creating an index table comprises utilizing  
2 the LUT to create an index table which specifies physical addresses for each file.

1 22. A method as in claim 11 wherein the index table in the memory comprises a  
2 table of records which can be read by a processor.

1 23. A method as in claim 22 wherein the processor is a Digital Signal Processor.

1 24. A computer readable storage medium containing executable computer  
2 program instructions which when executed cause a method for a processor to  
3 access data in a memory, the method comprising:  
4 receiving a request to read a file stored in the memory, the memory  
5 having a fragmented array of files across a single partition;  
6 building a look up table (LUT) for the memory;  
7 storing at least temporarily the LUT in the processor;  
8 accessing the LUT in the processor to create an index table which  
9 specifies a plurality of addresses for the file;  
10 storing the index table in the memory.

1 25. A computer readable storage medium as in claim 24 wherein the memory is  
2 a flash memory.

1 26. A computer readable storage medium as in claim 24 wherein the memory is  
2 a SmartMedia;

1 27. A computer readable storage medium as in claim 24 wherein building a  
2 lookup table comprises parsing the memory's File Allocation Table to find  
3 clusters for all files located on the memory.

1 28. A computer readable storage medium as in claim 24 wherein building a  
2 lookup table comprises converting file clusters associated with a file into logical  
3 sectors.

1 29. A computer readable storage medium as in claim 28 wherein building a  
2 lookup table further comprises mapping the logical sectors of the files to their  
3 corresponding physical sectors.

1 30. A computer readable storage medium as in claim 24 wherein storing the LUT  
2 comprises storing the LUT into a Digital Signal Processor (DSP).

1 31. A computer readable storage medium as in claim 24 wherein creating an  
2 index table comprises utilizing the LUT to create an index table which specifies  
3 physical addresses for each file.

1 32. A computer readable storage medium as in claim 24 wherein the index table  
2 in the memory comprises a table of records readable by the processor.

1 33. A computer readable storage medium as in claim 32 wherein the processor  
2 is a Digital Signal Processor.

1 34. A computer readable storage medium containing executable computer  
2 program instructions which when executed cause a method for a processor to  
3 write data to a memory, the method comprising:  
4 receiving a request to write a file to the memory, the memory  
5 having a fragmented array of files across a single partition;  
6 determining the size of the file;  
7 writing the file to the memory;  
8 building a look up table (LUT) for the memory;  
9 storing at least temporarily the LUT in the processor;  
10 accessing the LUT in the processor to create an index table which  
11 specifies a plurality of addresses for the file;  
12 storing the index table in the memory.

1 35. A computer readable storage medium as in claim 34 wherein the memory is  
2 a flash memory.

1 36. A computer readable storage medium as in claim 34 wherein the memory is  
2 a SmartMedia;

1 37. A computer readable storage medium as in claim 34 wherein writing the file  
2 to the memory comprises searching a file allocation table (FAT) to find empty  
3 space within the memory to store the file.

1 38. A computer readable storage medium as in claim 34 wherein writing the file  
2 to the memory comprises allocating empty clusters within flash memory for the  
3 file.

1 39. A computer readable storage medium as in claim 34 wherein writing the file  
2 to the memory comprises storing the file in empty clusters in the memory.

1 40. A computer readable storage medium as in claim 34 wherein building a  
2 lookup table comprises parsing the memory's File Allocation Table to find  
3 clusters for all files located on the memory.

1 41. A computer readable storage medium as in claim 34 wherein building a  
2 lookup table comprises converting file clusters associated with a file into logical  
3 sectors.

1 42. A computer readable storage medium as in claim 41 wherein building a  
2 lookup table further comprises mapping the logical sectors of the files to their  
3 corresponding physical sectors.

1 43. A computer readable storage medium as in claim 34 wherein storing the LUT  
2 comprises storing the LUT into a Digital Signal Processor (DSP).

1 44. A computer readable storage medium as in claim 34 wherein creating an  
2 index table comprises utilizing the LUT to create an index table which specifies  
3 physical addresses for each file.

1 45. A computer readable storage medium as in claim 34 wherein the index table  
2 in the memory comprises a table of records which can be read by a processor.

1 46. A computer readable storage medium as in claim 45 wherein the processor  
2 is a Digital Signal Processor.